



Supplemental Building Interior Polychlorinated Biphenyl Investigation Work Plan

Madison-Kipp Corporation Madison, Wisconsin

BRRTS No. 02-13-558625 Facility ID No. 113125320

January 2015



Trenna Seilheimer Project Scientist

Jennine Trask, PE Project Manager

- Drask

Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation

Madison-Kipp Corporation Madison, Wisconsin

Prepared for:

Madison-Kipp Corporation

Prepared by:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414 276 7742
Fax 414 276 7603

Our Ref.:

WI001368.0022

Date:

January 22, 2015

This document is intended only for the use of the individual or entity for which it was prepared and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any dissemination, distribution or copying of this document is strictly prohibited.

# Supplemental Building Interior Polychlorinated Biphenyl Investigation Work Plan

Madison-Kipp Corporation Madison, Wisconsin

i

1.	Introduction			
2.	Project	Background	4	
	2.1	Site Location, Contacts, and Description	4	
	2.2	Surface Soil Geologic and Hydrogeologic Conditions	5	
3.	Investi	gation Objectives	6	
4.	Investi	gation Work Plan	7	
	4.1	Health and Safety	7	
	4.2	Soil Boring Sampling and Analysis Plan	7	
		4.2.1 Drilling and Soil Sampling	7	
	4.3	Groundwater Sampling and Analysis Plan	9	
		4.3.1 Drilling and Soil Sampling	9	
		4.3.2 Monitoring Well Installation and Development	10	
		4.3.3 Groundwater Sampling	10	
	4.4	Quality Assurance	11	
	4.5	Surveying	11	
	4.6	Management of Investigative-Derived Wastes	11	
	4.7	Investigation Reporting	12	
5.	Refere	nces	13	
Fig	ures			
	2-1	Site Location Map, Madison-Kipp Corporation, Madison, Wisconsin		
	2-2	Site Layout Map, Madison-Kipp Corporation, Madison, Wisconsin		
	4-1	Proposed Soil Boring and Monitoring Well Locations, Madison-Kipp Corporation, Madison, Wisconsin		
	4-2	Interior Building Trench Cross Section with Proposed Soil Boring and Monitoring Well Locations, Madison-Kipp Corporation, Madison, Wisconsin		
Аp	pendix			
	Α	Submittal Certification		

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

### 1. Introduction

On behalf of Madison-Kipp Corporation, ARCADIS has been retained to prepare a work plan for supplemental interior building investigation activities at its facility located at 201 Waubesa Street in Madison, Wisconsin (Site). Below is a chronology of work plans, reports, meetings, and responses from the Wisconsin Department of Natural Resources (WDNR) and United States Environmental Protection Agency (U.S. EPA).

- On May 31, 2012, a Site Investigation Work Plan (Work Plan) was submitted to the WDNR for approval to complete site investigation activities at the Site (ARCADIS, 2012a). The WDNR provided a Conditional Approval letter dated June 25, 2012, for this Work Plan (WDNR, 2012a).
- On September 28, 2012, a Site Investigation Work Plan Addendum, Building Subsurface Investigation (Addendum) was submitted to the WDNR (ARCADIS, 2012b). The Addendum was approved by WDNR in a letter dated October 17, 2012 (WDNR, 2012b).
- On February 14, 2013, a Building Subsurface Investigation Summary was submitted to the WDNR to summarize the investigation activities and results (ARCADIS, 2013a).
- On March 15, 2013, a Site Investigation and Interim Actions Report, February 2012 January 2013 (SI Report) was submitted to the WDNR to summarize investigation activities and results for the reporting period (ARCADIS, 2013b). On May 29, 2013, a Supplemental Site Information/Addendum 1 was submitted to the WDNR to provide further information regarding the Site (SI Addendum 1) (ARCADIS, 2013c). The SI Report was reviewed by the WDNR and a response letter dated June 20, 2013, was prepared that requested a work plan to address "sampling for degree and extent of PCB [polychlorinated biphenyls] and VOC [volatile organic compounds] soil contamination beneath the MKC manufacturing buildings."
- On July 8, 2013, ARCADIS met with the WDNR to discuss the agency's June 20, 2013, response letter and requested a joint meeting with the WDNR and U.S. EPA to clarify the investigation expectations for beneath the manufacturing building.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

- On July 23, 2013, ARCADIS met with the WDNR and U.S. EPA to discuss the investigation results completed to date, conduct a site walk, and discuss the objective of additional investigation activities.
- On August 1, 2013, a Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation (Work Plan) was submitted to the WDNR (ARCADIS, 2013d). The Work Plan was approved by WDNR in the Madison Kipp Corporation (MKC) Work Plan Reviews letter dated October 9, 2013 (WDNR, 2013b).
- On April 22, 2014, a Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary (SI Report) was submitted to the WDNR to provide details of the investigation completed from December 2013 through February 2014 (ARCADIS, 2014a).
- On August 27, 2014, ARCADIS met with the WDNR and U.S. EPA to discuss the
  next steps for addressing the soils containing PCBs beneath the building. At this
  meeting, U.S. EPA requested the completion of indoor air and surface wipe
  sampling activities, a technical justification submittal for management of PCB
  contaminated soils beneath the building, and additional soil investigation activities
  for beneath the building.
- On October 22, 2014, a Technical Justification Polychlorinated Biphenyl (PCB)-Impacted Soils Beneath the Main Manufacturing Building (Technical Justification) was submitted to the WDNR (ARCADIS, 2014b). The Technical Justification included this Supplemental Building Interior Polychlorinated Biphenyl Investigation Work Plan (Work Plan) as an attachment. On December 17, 2014, MKC met with the WDNR and U.S. EPA (via telephone) to discuss the Technical Justification submittal. At this meeting, U.S. EPA requested continuous soil sampling during the additional soil investigation activities, PCB homolog analysis for select soil sample locations, and the installation and sampling of one monitoring well within the building.

This report presents a work plan for completing additional soil and groundwater investigation activities to document PCBs beneath the manufacturing building as discussed during the August 27, 2014, and December 17, 2014, meetings with the WDNR and U.S. EPA. The information provided herein is based on the requirements

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

of Natural Resources (NR) 716 Wis. Admin. Code. An NR 712.09 submittal certification is included in Appendix A.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

# 2. Project Background

## 2.1 Site Location, Contacts, and Description

The Site is located at 201 Waubesa Street in Madison, Wisconsin. The Site is located in the southwest quarter of Section 5, Township 7 North, Range 10 East in Dane County. The location of the site is illustrated on a topographic quadrangle presented as Figure 2-1.

The following contact information is provided for the facility and environmental consultant:

Facility Representative: Alina Satkoski

Madison-Kipp Corporation 201 Waubesa Street

Madison, Wisconsin 53704 608-242-5200 (telephone) 608-770-9401 (fax)

000 110 5401 (lax)

asatkoski@madison-kipp.com

Environmental Attorney: David A. Crass

Michael Best & Friedrich, LLP

One South Pinckney Street, Suite 700

Madison, Wisconsin 53703 608-283-2267 (telephone)

608-283-2275 (fax)

dacrass@michaelbest.com

Environmental Consultant: Jennine L. Trask, PE

ARCADIS US, Inc.

126 North Jefferson Street, Suite 400

Milwaukee, Wisconsin 53202 414-276-7742 (telephone) jennine.trask@arcadis-us.com

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

The Site is approximately 7.5 acres in size. A 130,000-square foot building occupies much of the Site. Asphalt parking lots are located in the northeastern, southwestern and southeastern portions of the Site. The building has a 25,000-square foot second floor and a 25,000-square foot basement. Figure 2-2 depicts the layout of the Site. The Site is zoned M-1 (industrial/manufacturing). The Site is currently used as a metals casting facility.

The Site is located in the eastern portion of Madison, in a mixed use area of commercial, industrial and residential land use. The Site is bounded by a bicycle trail (Capital City Trail) to the north, Atwood Avenue to the south, and Waubesa Street to the west. Residences are located adjacent to the east and west sides of the Site, and further west (across Waubesa Street) and east (across Marquette Street). Commercial properties are located to the south (across Atwood Street) and further east. The Goodman Community Center is located to the north (across the Capital City Trail).

The Site is also located at the northeast end of the Madison isthmus, approximately 1,500 feet north of Lake Monona and approximately 6,800 feet east of Lake Mendota. The topography of the Site is relatively flat, with an elevation ranging from approximately 870 to 880 feet above mean sea level. The Site and surrounding area is serviced by municipal water supply and sewerage systems.

### 2.2 Surface Soil Geologic and Hydrogeologic Conditions

The geology under the building consists of 6 to 12 inches of concrete overlaying 4 to 8 feet of dark yellowish brown (10YR 4/4 to 10YR 4/6) clay with little to some silt, trace fine sand or gravel. The clay is generally stiff with low to moderate plasticity. Underlying the clay is brownish yellow (10YR 6/6), very fine to fine sand with trace to little gravel. Sandstone bedrock was encountered at approximately 36 feet. Groundwater was encountered at approximately 23 to 25 feet in monitoring wells MW-22 and MW-23 in July 2014.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

# 3. Investigation Objectives

On August 27, 2014, and December 17, 2014, meetings with the WDNR and U.S. EPA were conducted to discuss the next steps for addressing the soils containing PCBs beneath the building. The WDNR and U.S. EPA requested advancement and sampling of additional soil borings and the installation and sampling of one additional monitoring well to document the concentrations of PCBs beyond the limits of the existing dataset. This work plan presents the means and methods for conducting the additional soil and groundwater investigation activities.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

### 4. Investigation Work Plan

The following sections present a description of the work to be completed during the investigation. The contents of this section were prepared in accordance with NR 716.09 Wis. Admin. Code.

### 4.1 Health and Safety

Utility marking arrangements will be made through Digger's Hotline (the State of Wisconsin Public Utility clearance service), a private utility locator, and/or discussions with property owners. Prior to beginning work each day, a "tailgate" health and safety briefing will be held to discuss the activities and identify ways to ensure the health and safety of Site workers. If conditions are encountered during Site investigation activities that differ from those outlined in the health and safety plan, the Site activities will be reevaluated to determine the appropriate actions that will ensure the health and well-being of the workers.

### 4.2 Soil Boring Sampling and Analysis Plan

A Geoprobe and/or direct-push hand cart will be used to advance soil borings for collecting soil samples. Up to six soil borings will be advanced to the water table estimated at approximately 23 to 25 feet or refusal. The interior facility layout (e.g., machines, machine footprints, underground utility lines, inaccessible areas) will impact the below ground depth that can be achieved. During previous investigations, numerous "step-out" locations were advanced due to shallow refusal from subsurface obstructions and/or limitations of equipment. The locations of these borings are depicted on Figures 4-1 and 4-2. Below is a summary of the proposed drilling and soil sampling activities.

## 4.2.1 Drilling and Soil Sampling

Soil samples will be collected by driving a steel sampling rod (sampler) with acetate liners to the desired sampling depth using the hydraulic ram and hammer on the Geoprobe rig. Once the sampler reaches the desired depth, the sampler will be opened by removing a stop pin in the sampler. The sampler will be driven an additional 3 feet to push a soil sample into the sampler, preserving the sample in an acetate liner inside the

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

sampler. The acetate sleeves will allow continuous collection of soil samples from each boring.

Companion sampling will be completed by collecting two aliquots of soil from each sampling interval and placing each aliquot into a separate resealable plastic bag. One of the companion samples from each interval will be used for field screening for the presence of total ionizable VOC vapors with a calibrated photoionization detector (PID). The screening samples will be warmed and the headspace PID reading of the soil will be taken by inserting the probe end of the PID into the plastic bag through the seal. The unscreened companion samples will be used for preparing samples for analytical testing based on the results of the PID readings and/or visual observations made by the ARCADIS scientist.

An ARCADIS scientist will oversee the drilling activities and visually screen and describe the condition and engineering properties of the soil. Soil descriptions and field screening PID results will be recorded on Soil Boring Logs (WDNR Form 4400-122) and Borehole Abandonment Forms (WDNR Form 3300-005) will be prepared in accordance with WDNR requirements.

Up to six soil borings will be advanced beneath the building. The locations of these borings are depicted on Figures 4-1 and 4-2. Soil samples will be collected and submitted to Environmental Chemistry Consulting Services, Inc. in Madison, Wisconsin for laboratory analysis of PCBs by Method 8082 and PCB homolog by Method 680, as described below. All containers and preservatives will be obtained directly from the analytical laboratories. Immediately after collection, the sample containers will be placed in a cooler with ice until shipment to the appropriate laboratory can be arranged. Standard chain-of-custody procedures will be followed throughout sample collection, storage, and shipment. Sampling will be completed as follows:

• Six soil borings will be advanced adjacent to the locations of Soil Borings B-158, B-179, B-180, B-181, and B-182, as discussed during the August 27, 2014, meeting. The soil borings will be advanced to the water table or where refusal is encountered, either by subsurface obstructions or limitations of equipment. Continuous soil sampling (one soil sample from each 3-foot interval) will be conducted, per soil boring, from the ground surface to above the water table or where refusal is encountered. Each soil sample will be submitted for PCB analysis. In addition, one soil sample from the soil borings advanced adjacent to Soil Boring.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

locations B-180 and B-182, will be submitted for PCB homolog analysis. This sample will be selected based on the highest PCB aroclor result.

### 4.3 Groundwater Sampling and Analysis Plan

One soil boring will be advanced adjacent to the location of Soil Boring B-152, as discussed during the December 17, 2014, meeting. A mini-hollow stem auger rig will be used to advance the soil boring for collecting soil samples. One soil boring will be advanced to the water table estimated at approximately 23 to 25 feet and then converted into a monitoring well. The interior facility layout (e.g., machines, machine footprints, underground utility lines, inaccessible areas) will impact the below ground depth that can be achieved. During previous investigations, numerous "step-out" locations were advanced due to shallow refusal from subsurface obstructions and/or limitations of equipment. The location of this monitoring well is depicted on Figures 4-1 and 4-2. Below is a summary of the proposed drilling and soil sampling, monitoring well installation and development, and groundwater sampling activities.

### 4.3.1 Drilling and Soil Sampling

Soil samples will be collected, using split-spoons from ground surface to the top of the water table, from the one borehole that will be converted to a water table well. Continuous soil sampling (one soil sample from each 3-foot interval) will be conducted from the ground surface to above the water table or where refusal is encountered. Each soil sample will be submitted for PCB analysis. Companion sampling will be completed by collecting two aliquots of soil from each sampling interval and placing each aliquot into a separate resealable plastic bag. One of the companion samples from each interval will be used for field screening for the presence of total ionizable VOC vapors with a calibrated PID. The screening samples will be warmed and the headspace PID reading of the soil will be taken by inserting the probe end of the PID into the plastic bag through the seal. The unscreened companion samples will be used for preparing samples for analytical testing based on the results of the PID readings and/or visual observations made by the ARCADIS scientist.

Soil samples will be collected and submitted to Environmental Chemistry Consulting Services, Inc. in Madison, Wisconsin for laboratory analysis of dissolved PCBs by Method 8082. All containers and preservatives will be obtained directly from the analytical laboratories. Immediately after collection, the sample containers will be

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

placed in a cooler with ice until shipment to the appropriate laboratory can be arranged. Standard chain-of-custody procedures will be followed throughout sample collection, storage, and shipment.

An ARCADIS scientist will oversee the drilling activities and visually screen and describe the condition and engineering properties of the soil. Soil descriptions and field screening PID results will be recorded on Soil Boring Logs (WDNR Form 4400-122) in accordance with WDNR requirements.

### 4.3.2 Monitoring Well Installation and Development

The soil boring will be converted to a water table well. Based on the well screens of Monitoring Wells MW-22S and MW-23S, located within the building, it is expected the screen location will be installed at a depth of 25 to 35 feet below ground surface; however, the installation depths will be based on field observations. The well will consist of a single screen and will be constructed and developed in accordance with NR141 Wis. Adm. Code. A 10-foot, 0.010-inch, polyvinyl chloride screen and Schedule 40 polyvinyl chloride riser will likely be used. The well will be completed at the surface with a flush-mount well compartment set in concrete. The well construction form (WDNR Form 4400-113A) will be completed for the new well.

The new well will be developed in accordance with NR 141 Wis. Adm. Code. The goal of well development is to produce water free of sediment, drill cuttings, and drilling fluids. After a minimum waiting period of 12 hours after installation, the new well will be developed using a surge and purge method or air lifting techniques. The well development form (WDNR Form 4400-113B) will be completed for the new well.

### 4.3.3 Groundwater Sampling

A groundwater sample will be collected from the new well using low-flow sampling techniques. Low-flow sampling techniques are used to collect representative water samples in the formation adjacent to the well screen while 1) reducing water turbulence which may unnecessarily volatilize contaminants; 2) reducing turbidity levels that may bias analytical results high; and 3) reducing the volume of water requiring management.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

Low-flow sampling consists of purging the groundwater at a low-flow rate (less than 150 milliliters per minute) until a set of field parameters (dissolved oxygen, temperature, pH, conductivity, oxidation-reduction potential, and turbidity) stabilize within 10 percent for three consecutive readings. Purging will be completed using a peristaltic pump or a stainless steel bladder pump with dedicated polyethylene tubing, depending on the depth to water. Field parameters will be measured using a calibrated multi-parameter meter. Once the field parameters stabilize, the water sample will be field filtered with a 0.45 micron filter. Nitrile gloves will be worn by the sampling personnel and discarded following any activity that may produce cross-contamination.

The groundwater sample will be collected and submitted to Environmental Chemistry Consulting Services, Inc. in Madison, Wisconsin for laboratory analysis of dissolved PCBs by Method 8082. All containers and preservatives will be obtained directly from the analytical laboratories. Immediately after collection, the sample containers will be placed in a cooler with ice until shipment to the appropriate laboratory can be arranged. Standard chain-of-custody procedures will be followed throughout sample collection, storage, and shipment.

### 4.4 Quality Assurance

In accordance with U.S. EPA requirements, the quality assurance, quality control, and technical activities and procedures associated with implementing this work plan will be conducted per the approved quality assurance procedures presented in the *Final Revised Work Plan for Polychlorinated Biphenyl Recommended Activities* dated December 4, 2012.

### 4.5 Surveying

A Wisconsin-licensed surveyor will locate the horizontal location of each boring and monitoring well to Wisconsin state plane coordinates and vertical elevation. Ground elevations will be surveyed to a horizontal accuracy of +/-1 foot and vertical accuracy of +/-0.01 foot.

# 4.6 Management of Investigative-Derived Wastes

Soil cuttings, well development water, and decontamination water from cleaning downhole equipment generated during the investigation will be containerized in appropriate

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

steel 55-gallon drums. Arrangements will be made with a licensed disposal facility for the transportation and disposal of the wastes.

# 4.7 Investigation Reporting

Following receipt of the soil and groundwater analytical results, ARCADIS will prepare a letter report. The letter report will include a summary of the activities completed, summary of the field screening and analytical results, and confirm recommendations. Copies of all boring logs, borehole abandonment forms, well constructions forms, well development forms, and analytical reports will be included as attachments to the summary letter.

Supplemental
Building Interior
Polychlorinated
Biphenyl Investigation
Work Plan

Madison-Kipp Corporation Madison, Wisconsin

### 5. References

ARCADIS. 2012a. Site Investigation Work Plan. May 2012.

ARCADIS. 2012b. Site Investigation Work Plan Addendum, Building Subsurface Investigation. September 2012.

ARCADIS. 2013a. Building Subsurface Investigation Summary. February 2013.

ARCADIS. 2013b. Site Investigation and Interim Actions Report February 2012-January 2013. March 2013.

ARCADIS. 2013c. Supplemental Site Information/Addendum 1. May 2013.

ARCADIS. 2013d. Supplemental Work Plan for Polychlorinated Biphenyl Building Subsurface Investigation. August 2013.

ARCADIS. 2014a. Supplemental Building Interior Polychlorinated Biphenyl Work Plan Subsurface Investigation Summary. April 2014.

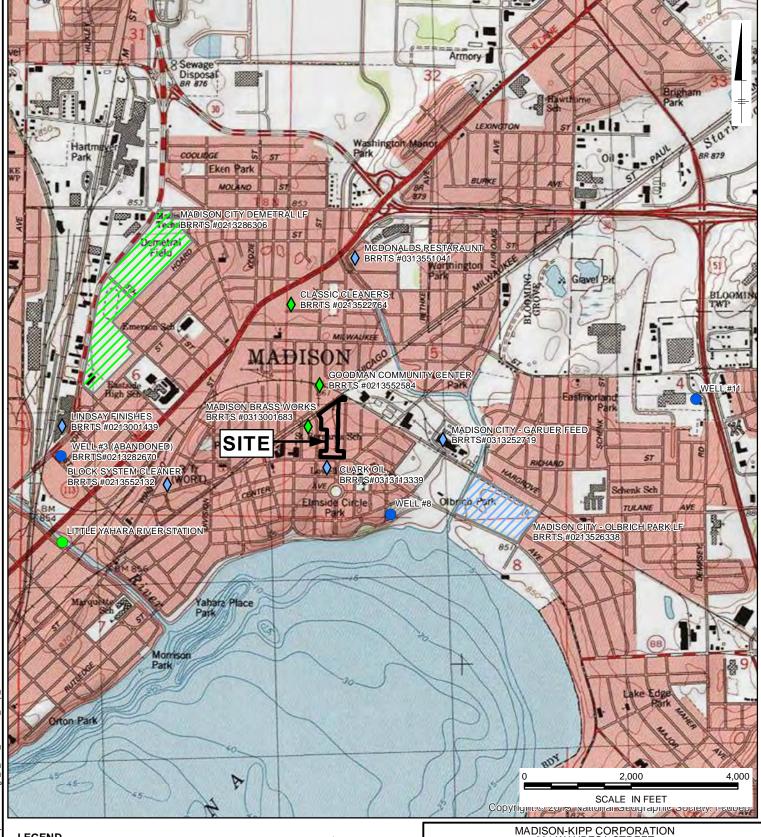
ARCADIS. 2014b. Technical Justification – Polychlorinated Biphenyl (PCB)-Impacted Soils Beneath the Main Manufacturing Building. October 22, 2014.

WDNR. 2012a. Conditional Approval: May 2012 Site Investigation Workplan. June 2012.

WDNR. 2012b. September 28, 2012 Site Investigation Work Plan Addendum: Building Subsurface Investigation. October 2012.

WDNR. 2013a. Review of March 2013 Madison Kipp Site Investigation and Interim Actions Report February 2012 – January 2013.

WDNR. 2013b. Madison Kipp Corporation (MKC) Work Plan Reviews. October 2013.



OPEN SITE (ONGOING CLEANUP)

OPEN SITE - SITE BOUNDARIES

CLOSED SITE (COMPLETED CLEANUP)

**CLOSED SITE - SITE BOUNDARIES** 

**GAUGING STATION** 

MUNICIPAL WATER SUPPLY WELL

PROJECT BOUNDARY



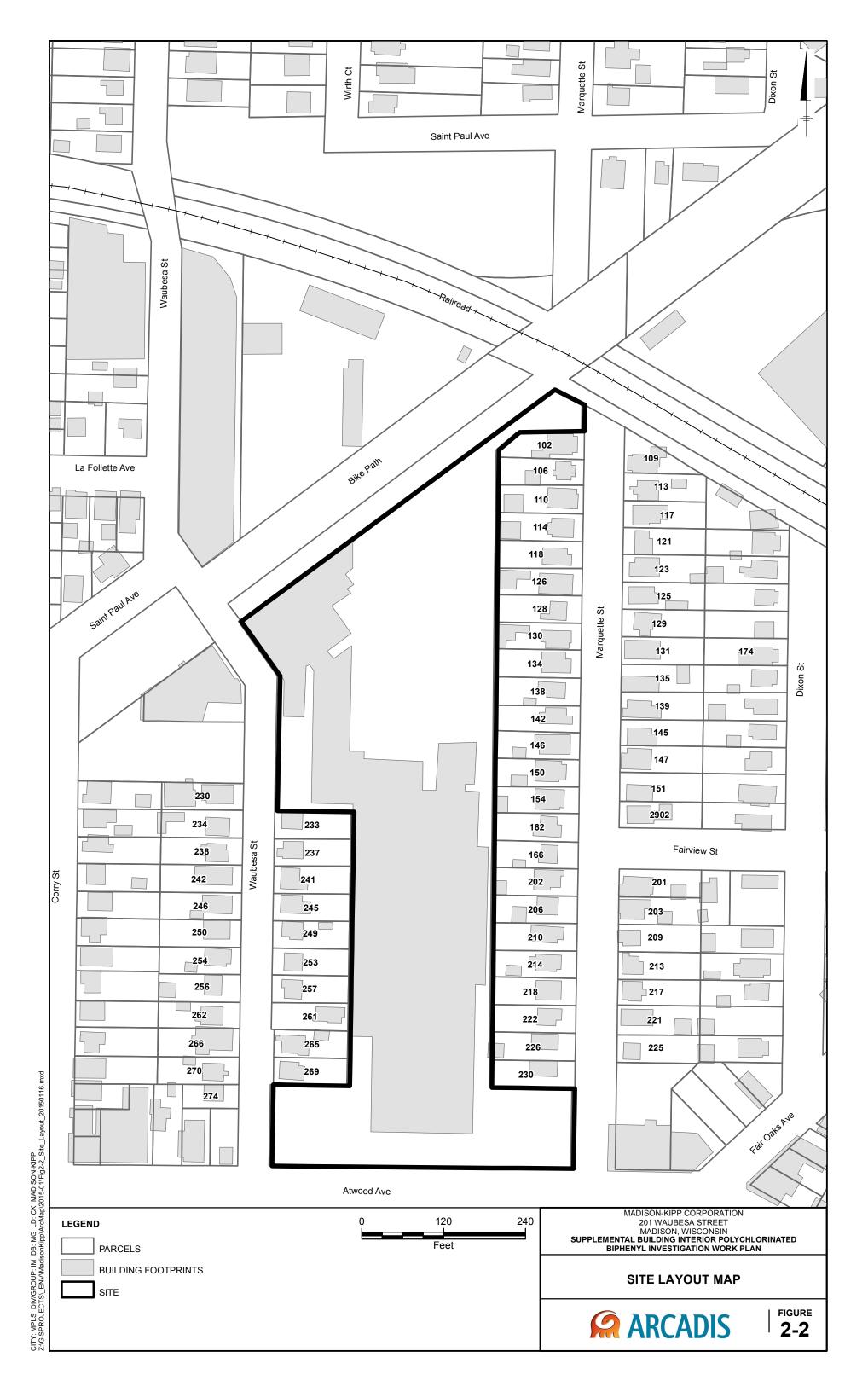
MADISON-KIPP CORPORATION 201 WAUBESA STREET MADISON, WISCONSIN

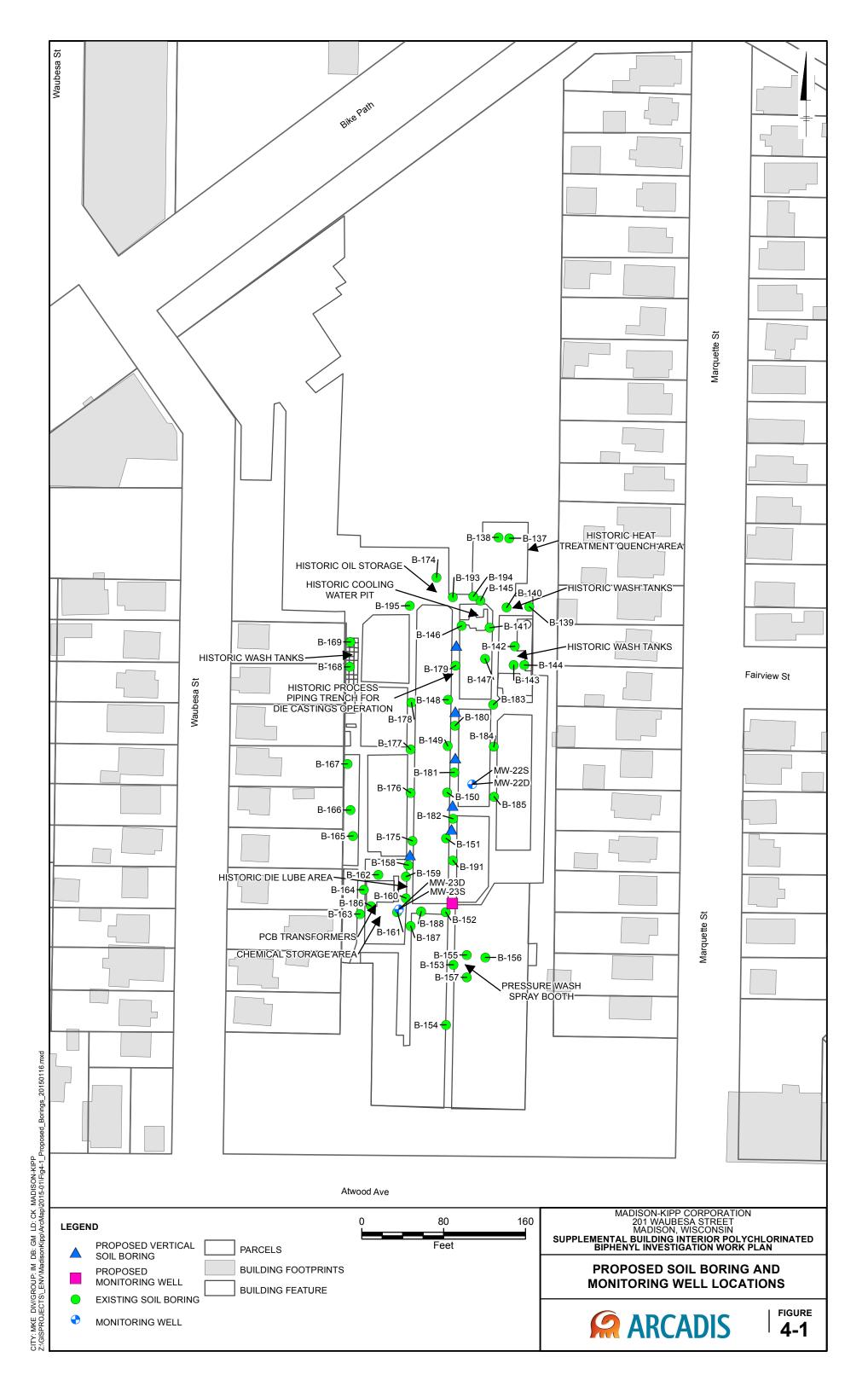
SUPPLEMENTAL BUILDING INTERIOR POLYCHLORINATED BIPHENYL INVESTIGATION WORK PLAN

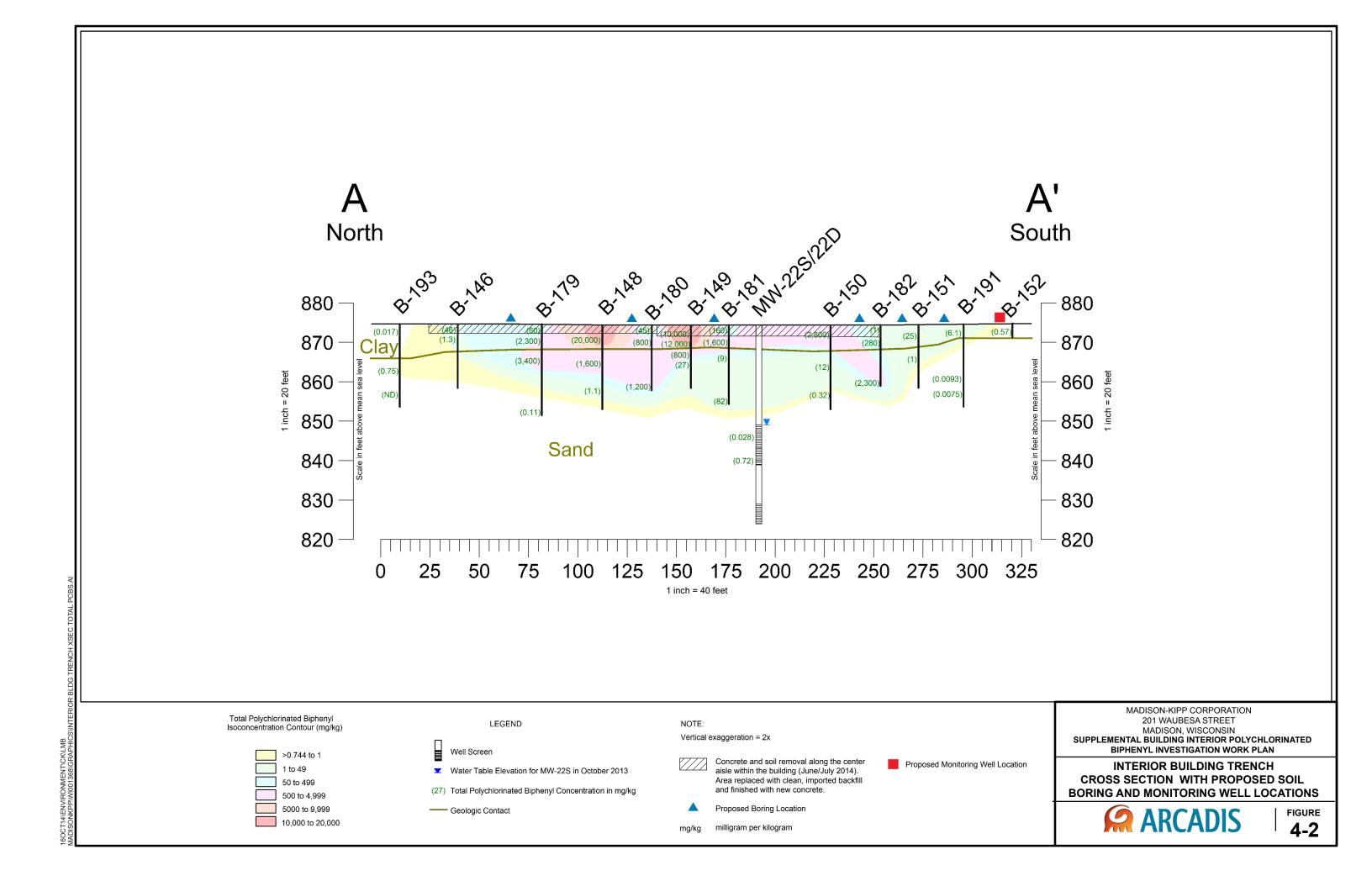
SITE LOCATION MAP



**FIGURE** 









# Appendix A

Submittal Certification



### **Submittal Certification**

This attachment was prepared to satisfy the requirements of Wisconsin Administrative Code Chapter NR 712.09 and is applicable to the following document.

Supplemental Building Interior Polychlorinated Biphenyl Investigation Work Plan
Madison-Kipp Corporation
201 Waubesa Street
Madison, Wisconsin

"I, <u>Jennine Trask</u>, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. <u>A-E 4</u>, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. <u>A-E 8</u>, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 1020 Wis. Code."

Signature, title and P.E. number

"I, <u>Trenna Seilheimer</u>, hereby certify that I am a scientist as that term is defined in s. <u>NR 712.03 (3)</u>, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. <u>NR 700</u> to <u>726</u>, Wis. Adm. Code."

Signature and title

1-22-15

Date